IN THE SPECIFICATION

Please replace paragraphs [0013] through [0043] with the following replacement paragraphs [0013] to [0043] as follows:

[0013] In order to solve the above problems, an olfactory mucosa stimulating compound screening apparatus ~~recited in claim 1~~ of the present invention includes: an administration means for administering an olfactory mucosa stimulating compound toward an olfactory mucosa of a test animal; a measuring electrode portion implanted in an olfactory bulb of the test animal for measuring an electrical signal generated in the olfactory bulb; a processing means for analyzing a correlation between an electrical signal measured by the measuring electrode portion when the olfactory mucosa stimulating compound is administered to the olfactory mucosa of the test animal by the administration means and a physiological response induced in the test animal.

[0014] An olfactory mucosa stimulating compound screening apparatus recited above ~~in claim 2~~ is characterized in that, in the olfactory mucosa stimulating compound screening apparatus ~~recited in claim 1~~, the processing means directly obtains data concerning the physiological response from the test animal, so as to analyze the correlation between the physiological response and the electrical signal obtained by the measuring electrode portion.

[0015] An olfactory mucosa stimulating compound screening apparatus recited above ~~in claim 3~~ is characterized in that, in the olfactory mucosa stimulating compound screening apparatus recited above ~~in claim 1~~, the processing means previously stores data concerning an electrical signal in the olfactory bulb which induces a physiological response in the test animal, and analyzes based on the data the correlation between a physiological response and an electrical signal obtained by the measuring electrode portion.

[0016] An olfactory mucosa stimulating compound screening apparatus recited above ~~in claim 4~~ is characterized in that, in the olfactory mucosa stimulating compound screening apparatus ~~recited~~ above ~~in any of claims 1-3~~, the administration means includes a box for containing the olfactory mucosa stimulating compound, and a nozzle for spraying the olfactory mucosa stimulating compound contained in the box in the vicinity of the olfactory mucosa of the test animal.

[0017] An olfactory mucosa stimulating compound screening apparatus recited above ~~in claim 5~~ is characterized in that, in the olfactory mucosa stimulating compound screening apparatus ~~recited~~ above ~~in any of claims 1-4~~, the measuring electrode portion has at least one micro electrode for detecting an electrical signal from a nerve cell of the olfactory bulb.

[0018] An olfactory mucosa stimulating compound screening apparatus recited above ~~in claim 6~~ is characterized in that, in the olfactory mucosa stimulating compound screening apparatus recited above ~~in claim 5~~, the measuring electrode portion has a plurality of micro electrodes, the micro electrodes being arranged such that an electrical signal pattern generated in the olfactory bulb by administration of the olfactory mucosa stimulating compound to the olfactory mucosa of the test animal is obtained at a plurality of points.

[0019] An olfactory mucosa stimulating compound screening apparatus recited above ~~in claim 7~~ is characterized in that, in the olfactory mucosa stimulating compound screening apparatus recited above ~~in claim 5 or 6~~, an electrical signal which induces a physiological response in the test animal is supplied to each of the micro electrodes.

[0020] An olfactory mucosa stimulating compound screening method of the present invention ~~recited in claim 8~~ includes steps of: administering an olfactory mucosa stimulating compound to an olfactory mucosa of a test animal; measuring an electrical signal generated in the olfactory bulb of the test animal when the olfactory mucosa stimulating compound is administered to the olfactory mucosa of the test animal; and analyzing a correlation between the measured electrical signal and a physiological response induced in the test animal.

[0021] An olfactory mucosa stimulating compound screening method recited above ~~in claim 9~~ presents a correlation between an electrical signal measured by a measuring electrode portion and a physiological response induced in a test animal in the olfactory mucosa stimulating compound screening method ~~recited in claim 8~~.

[0022] A treatment apparatus recited above ~~in claim 10~~ includes: a measuring electrode portion implanted in an olfactory bulb of an organism; and a means for supplying a stimulation pattern in the olfactory bulb, which induces a physiological response in the organism, to the measuring electrode portion in the form of an electrical signal pattern.

[0023] A measuring electrode portion recited above ~~in claim 11~~ is implanted in an olfactory bulb of a test animal for measuring an electrical signal generated in an olfactory bulb or supplying an electrical signal to the olfactory bulb, the measuring electrode portion comprising a plurality of micro electrodes, each of which detects an electrical signal from a nerve cell of the olfactory bulb, wherein the micro electrodes are arranged based on an electrical signal pattern which is generated in the olfactory bulb as a result of administration of an olfactory mucosa stimulating compound to an olfactory mucosa of the test animal.

[0024] A measuring electrode portion recited above ~~in claim 12~~ is characterized in that, in the measuring electrode portion ~~of claim 11~~, each of the micro electrodes has an area of 1 μm^2 to 100,000,000 μm^2.

[0025] A measuring electrode portion recited above ~~in claim 13~~ is characterized in that, in the measuring electrode portion ~~of claim 12~~, the micro electrodes are arranged in a matrix.

[0026] A measuring electrode portion recited above ~~in claim 14~~ is characterized in that, in the measuring electrode portion ~~of claim 13~~, an interval between adjacent micro electrodes is 10 to 10,000 μm.

[0027] A measuring electrode portion recited above ~~in claim 15~~ is characterized in that, in the measuring electrode portion ~~of claim 11~~, each of the micro electrodes is placed on a film-shaped substrate.

[0028] A measuring electrode portion recited above ~~in claim 16~~ is characterized in that, in the measuring electrode portion ~~of claim 15~~, each of the micro electrodes has the shape of a ring, and is placed around a periphery of a through-hole formed in the substrate.

[0029] A measuring electrode portion recited above ~~in claim 17~~ is characterized in that, in the measuring electrode portion ~~of claim 16~~, the inner diameter of the through-hole formed in the substrate is equal to or smaller than 10,000 μm.

[0030] A measuring electrode portion recited above ~~in claim 18~~ is characterized in that, in the measuring electrode portion ~~of claim 11~~, the micro electrodes are provided on a front surface and a back surface at the same positions; each micro electrode provided on one of the surfaces of the substrate detects an electrical signal pattern which induces a physiological response in a test animal; and each micro electrode provided on the other surface of the substrate applies a signal which is the same as or different from the detected signal.

[0031] A measuring electrode portion recited above ~~in claim 19~~ is characterized in that, in the measuring electrode portion ~~of claim 15~~, the micro electrodes are formed of any of gold, platinum, ITO, titanium nitride, copper, silver, and tungsten.

[0032] A measuring electrode portion recited above ~~in claim 20~~ is characterized in that, in the measuring electrode portion ~~of claim 15~~, the substrate is made of a biomaterial.

[0033] A measuring electrode portion recited above ~~in claim 21~~ is characterized in that, in the measuring electrode portion ~~of claim 15~~, the substrate is made of any of polyethylene terephthalate, TEFLON® fluoropolymer ~~teflon~~, silicone rubber, a semiconductor material, and electrically conductive rubber.

[0034] A measuring electrode portion recited above ~~in claim 22~~ is characterized in that, in the measuring electrode portion ~~of claim 13~~, the micro electrode is formed at a tip of a needle-shaped conductive lead; a predetermined number of needle-shaped conductive leads are bound together such that the micro electrodes are placed with a predetermined interval, so as to form an electrode column; and a plurality of electrode columns are placed in parallel to each other with a predetermined interval therebetween.

[0035] A measuring electrode portion recited above ~~in claim 23~~ is characterized in that, in the measuring electrode portion ~~of claim 21~~, the needle-shaped conductive lead has a diameter of 1 μm to 1,000 μm.

[0036] A measuring electrode portion recited above ~~in claim 24~~ is characterized in that, in the measuring electrode portion ~~of claim 22~~, the needle-shaped conductive lead is formed by covering a needle-shaped conductive material with an insulative film except for the micro electrode at the tip thereof.

[0037] A measuring electrode portion recited above ~~in claim 25~~ is characterized in that, in the measuring electrode portion ~~of claim 24~~, the conductive material of the needle-shaped conductive lead is any of gold, platinum, ITO, titanium nitride, copper, silver, tungsten, and conductive rubber.

[0038] A measuring electrode portion recited above ~~in claim 26~~ is characterized in that, in the measuring electrode portion ~~of claim 24~~, the insulative film that covers the needle-shaped conductive lead is any of polystyrene, acrylic resins, polycarbonate, polyimide.

[0039] A measuring electrode portion recited above ~~in claim 27~~ is characterized in that, in the measuring electrode portion ~~of claim 11~~, the micro electrode is covered with a film of a biomaterial.

[0040] A measuring electrode portion recited above ~~in claim 28~~ is characterized in that, in the measuring electrode portion ~~of claim 22~~, the tip of the needle-shaped conductive lead is covered with a film of a biomaterial.

[0041] A treatment method of the present invention ~~recited in claim 29~~ includes steps of: administering an olfactory mucosa stimulating compound to an olfactory mucosa of a test animal; measuring an electrical signal generated in an olfactory bulb of the test animal when the olfactory mucosa stimulating compound is administered to the olfactory mucosa of the test animal to obtain an electrical signal pattern; determining a correlation between the electrical signal pattern, and the type and level of a physiological response induced in the test animal by the electrical signal pattern; and supplying an electrical signal pattern, which is sufficient for generating an intended physiological response, to an olfactory bulb of the test animal in the form of a stimulation pattern.

[0042] A method recited above ~~in claim 30~~ is characterized in that the intended physiological response is a decrease in the blood pressure.

[0043] A method recited above ~~in claim 31~~ is characterized in that the intended physiological response is a decrease in the blood glucose level.

Please replace paragraphs [0075] and [0097] with the following replacement paragraphs [0075] and [0097] as follows:

[0075] The substrate 12 can be formed of polyethylene terephthalate, TEFLON® fluoropolymer ~~teflon~~, silicone rubber, a semiconductor material, or the like, but the present invention is not limited to these materials. The substrate 12 may be formed of a biomaterial, such as collagen, gelatin, cellulose, or the like. In the case where the substrate 12 is formed of a biomaterial, when the measuring electrode portion 10 is implanted in the olfactory bulb of the test animal, the substrate 12 is integrated with the biological components of the olfactory bulb, whereby the micro electrodes 13 and the conductive lines 14 covered with the films of insulative materials are retained in the olfactory bulb with high adhesiveness.

[0097] In each electrode column 17, the four needle-shaped conductive leads 16 having different lengths are bound together such that the micro electrodes 16a, which are formed at the tips of the needle-shaped conductive leads 16, are located at intervals of 500 μm. Each electrode column 17 is fixed at a position 500 μm away from the tip of the shortest needle-shaped conductive lead 16 of the electrode column 17 with an insulative holder 18 made of silicon, TEFLON® fluoropolymer ~~teflon~~, or the like, such that the electrode columns 17 are retained in parallel to each other with an interval of 500 μm. It should be noted that, in section (a) of FIG. 4, the width of each needle-shaped conductive lead 16 is shown as being broader than the actual width thereof, for clarity of illustration.